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**Testimony before the United States House of Representatives  
Subcommittee on Economic Development, Public Buildings and Emergency Management  
Committee on Transportation and Infrastructure**

**Regarding**

**The Federal Emergency Management Agency's Urban Search & Rescue Program in Haiti:  
How to Apply Lessons Learned at Home**

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Thank you Chairwoman Norton, Ranking Member Diaz-Balart, and distinguished members of the Subcommittee on Economic Development, Public Buildings and Emergency Management for this opportunity to discuss the Federal Emergency Management Agency's Urban Search & Rescue Program in Haiti: How to Apply Lessons Learned at Home.

I have been a Philadelphia firefighter for 35 years, and I am currently assigned as the Special Operations Chief for the Philadelphia Fire Department's Special Operations Command. I also serve the Federal Emergency Management Agency (FEMA) Urban Search & Rescue (US&R) National Response System in concurrent duty assignments as the National Task Force Leader's Representative, Incident Support Team member, and Task Force Leader for Pennsylvania Task Force 1.

I have served in various capacities at the local, state, and federal levels in disaster response operations, including a 40-day field assignment as the FEMA US&R Incident Support Team Operations Chief at the September 11<sup>th</sup> attack and collapse of the World Trade Center in New York City, a 30-day field assignment as the FEMA US&R Incident Support Team Operations Chief for Hurricane Katrina (Mississippi theater of operations) and Hurricane Rita, and most recently a 7-day field assignment in Haiti in response to the 7.0 magnitude earthquake as the FEMA US&R Incident Support Team Operations Chief.

I am speaking today as a first-responder in relation to my duties in Philadelphia and as a FEMA National US&R Response System member who arrived in Haiti on January 19, 2010. I also have the responsibility and privilege to speak on behalf of the nearly 6,000 members of the Federal Emergency Management Agency's Urban Search & Rescue National Response System.

## **Background**

In previous testimony before the Subcommittee on Emergency Communications, Preparedness, and Response - Committee on Homeland Security, on May 6, 2007, I provided the following background information (with some minor / current updates as follows):

Similar to the rapid advances and extensive development of emergency medical services and hazardous materials response capabilities during the 1970's and 1980's, the field of technical rescue has seen significant improvement in terms of organization and training during the 1990's through today. New performance standards and accompanying training and legislative initiatives for technical rescue operations have recently been developed and teams have been assembled with all of the capabilities that are needed for the most complex and challenging incidents. The Federal Emergency Management Agency's Urban Search & Rescue National Response System is the product of these efforts.

In 1990, following the Federal Government's responses to the disasters of Hurricane Hugo and the Loma Prieta earthquake, Congress tasked the Federal Emergency Management Agency (FEMA) to develop a national civilian urban search & rescue capability. Several advanced Urban Search & Rescue teams had already been developed by individual fire departments and within regions where special risks had been recognized, such as California with its well-known earthquake potential. FEMA, with support from federal, state, and local authorities, fire departments, the nation's top technical rescue specialists, and other interested groups, developed the National Urban Search & Rescue (US&R) Response System.

As you are aware, during a disaster, the Federal Government implements the National Response Framework to provide state and local government with technical expertise, equipment, and other resources. These resources are provided by one or more federal agencies. The primary agency responsible for Urban Search & Rescue is FEMA, under Emergency Support Function #9 (ESF #9) of the National Response Framework.

The primary purpose of this system is to provide a nationwide network of heavy search and rescue teams that can be rapidly deployed to disaster incidents. The individual teams are established at the local-jurisdiction level and can be federalized and deployed by FEMA as needed for nationwide response. The US&R teams provide an organized system of resources to locate, extricate, and provide immediate medical treatment to victims trapped in collapsed structures and to conduct other life-saving operations. The US&R National Response System is responsible for the coordination, development, and maintenance of the Federal effort in providing these resources to augment state and local resources in disaster situations.

The twenty-eight Urban Search & Rescue (US&R) Task Forces are the fundamental units of FEMA's national response system, and are strategically located throughout the country. Each Task Force is sponsored by a State or local government jurisdiction and deploys with technical specialists who are divided into management and operational elements. FEMA has the ability to deploy the Task Forces in one of two operational configurations: as a Type I Task Force with 70 personnel (with a full equipment cache that includes specialized Weapons of Mass Destruction capabilities), or as a Type III Task Force with 28 personnel (with a modified smaller equipment cache) that is primarily designed to operate in weather-driven disasters such as hurricanes.

To ensure the ability to deploy at any time with the required number of personnel, teams are staffed in all positions “three-deep”, and carry a total rostered personnel complement of 210 members. A significant number of the sponsoring agencies are municipal fire departments, and firefighters comprise the largest percentage of the rostered members within the system.

The FEMA US&R National Response System also provides an overhead management capability for field operations known as the Incident Support Team (IST). The IST provides Federal, state, and local officials with technical assistance in the acquisition and utilization of Federal US&R resources through advice, incident command assistance, management, and coordination of US&R Task Forces, and obtaining logistical support. The FEMA US&R Program rosters three 21-member Incident Support Teams (the Red, White, and Blue teams). Each IST is on call one out of every three months, and members must be able to deploy within two hours of receiving their activation orders.

Each Task Force maintains extensive capabilities within seven major functional elements.

- Search Specialists utilize canines and technical electronic search equipment to locate trapped victims.
- Rescue Specialists are skilled in shoring operations, lifting, and cutting and breaching all types of building materials including structural steel and reinforced concrete to extricate trapped victims.
- Physicians and Medical Specialists (at the paramedic or equivalent level) provide advanced life support capability and pre-hospital and emergency care for Task Force members. They also provide crush syndrome medicine and confined space medicine for rescued victims.
- Rigging Specialists work in conjunction with heavy equipment, such as large hydraulic cranes, to remove heavy debris and expose collapse voids where victims are buried.
- Structural Engineers (some of them firefighters also licensed as professional engineers) perform structural integrity assessments of structures in rescue operations.
- Hazardous Materials Specialists and Technical Information Specialists provide support to the overall search and rescue mission including planning, hazards evaluation, hazardous materials assessments in rescue operations, and technical documentation.
- Logistics Specialists support the overall search and rescue mission by providing supplies, equipment, communications, and transportation for the Task Force and managing the mobilization and demobilization processes.

In addition to having the above listed capabilities, Task Forces are structured to be able to operate under the following guidelines:

- 24-hour around-the clock operations
- Self-sufficiency for 72 hours
- Report to the Point Of Departure within 4-6 hours of activation, and to be able to deploy all personnel and the entire equipment cache by ground or air (as required)
- Cross-trained personnel
- Standardized equipment and training
- Standardized operating procedures
- Operate under the Incident Command System (ICS)

The National US&R System has played an essential role in the federal response to natural disasters and terrorist attacks. During the response to Hurricane Katrina in 2005, all 28 of the Task Forces were activated, with ten being activated a second time for the extended operations encountered. These US&R Task Forces were credited with the search of thousands of homes and buildings and the rescue of 6,587 victims. As evidenced by the FEMA US&R Program's response to Hurricanes Katrina and Rita and as highlighted by then-Department of Homeland Security Secretary Chertoff in his Report to Congress in 2006, the FEMA US&R Program was one of the federal response entities, along with the United States Coast Guard, that was acknowledged for successful response operations.

Eleven of the then 25 Task Forces and one management team took part in the federal response to the bombing of the Alfred R. Murrah Building in Oklahoma City, Oklahoma, on April 19, 1995, and 25 of the current 28 Task Forces and two of the current three standing management teams took part in the response to the attacks on the World Trade Center and the Pentagon on September 11, 2001.

The FEMA US&R National Response System is a proven response entity of the Federal government, and is available to provide immediate response to natural disasters or a terrorist attack. Since 1991, this system has responded to over 30 major disasters, and has also been deployed to support 15 National Security Special events (to include Presidential Nominating Conventions, the 2002 Winter Olympics in Salt Lake City, the G-8 Summit, etc.).

### **Lessons Learned from the Response to the Haiti Earthquake**

With all due respect and condolences to the people of Haiti in the aftermath of this devastating disaster, it is important to look at the international emergency response to this incident and determine how to apply lessons learned in Haiti to our future operations at home.

The following observations and recommendations are in no way intended to serve as a criticism of the response operations in Haiti – they are submitted with the thought that we have an obligation to use this experience and leverage what we learned in the sole interest of better preparing our nation and serving our citizens.

### **Tiered Response**

All disasters start as local-level events. As the response requirements build in scope and complexity, additional resources are deployed and engaged. The more quickly we can engage technician-level rescuers after a sudden-on-set event, the more likely it is that we will save many more lives, particularly in the early operations (first 2-3 days after the event occurs) where the survivability profile is high. Haiti did not have a fully-developed technical rescue / US&R capability at the local, regional, or national level, and precious time was lost in the immediate hours after the initial earthquake as a sufficient number of skilled rescuers were not immediately able to engage in rescue operations.

It is important for the DHS / FEMA's National US&R Response System to continue our outreach to other responders including the State Urban Search & Rescue Alliance to assist them in building upon their good work as they continue to develop technician-level response capabilities at the local,

regional and state levels. It is important for us to increase our opportunities to share our FEMA US&R training curriculum and train and exercise together.

In the United States, we have developed a much more robust local-level technical response capability, especially since the attacks of September 11<sup>th</sup>, 2001. It is vital for us to continue to fund local government technical rescue / US&R initiatives via the Homeland Security Grant Program, Urban Area Security Initiative grants, Maritime Port Security Grant Program, and possibly other related federal funding mechanisms that are not tied specifically to response to terrorism.

As we prepare to respond to any type of disaster, far-reaching benefits will be achieved by consistently training together, sharing information, and building relationships at all levels of government and all tiers of response (from first-responders to fourth-tier stand-alone, self-sufficient resources). Integrating common doctrine, a common concept of operations, similar equipment and techniques for individual response disciplines, and interoperable communications through all these tiers of response in the preparedness phase will allow for the most effective service delivery to our citizens during the response phase.

This will enable our nation to put rescuers trained to the highest technical levels to work in the shortest amount of time possible.

## **Command & Control**

The Command & Control structure for US&R operations in Haiti was somewhat different than what we might encounter at a similar event in the United States. Overall US&R operations were directed/coordinated by the United Nations On-Site Operations Coordination Center (OSOCC). The United States US&R Task Forces came under the direct coordination of the United States Agency for International Development Disaster Assistance Response Team (USAID DART) Operations Coordinator.

At a similar event in the United States, operations would be directed by the local Authority Having Jurisdiction, with assistance from the Federal Government, with the FEMA US&R Incident Support Team (IST) having a significant role. The IST provides critical links between the Federal Government, State and local governments, and the FEMA US&R Task Forces during US&R response operations.

As observed during operations in Haiti, a strong unified command and control element is essential for successful rescue operations. The FEMA US&R System needs a structured, formal Mentoring/Shadowing Program for our less-experienced IST members, and for those members of our system that have begun training to become IST members. We have an obligation to fully train and exercise these field managers before we assign them to critical roles at an actual disaster (as has occurred in the past).

We have identified this in many previous post-disaster formal After-Action Reports and subsequent Corrective Action Plans, yet we have not been able to accomplish this critical training due to a lack of funding for this specific purpose. Dedicated funding sources need to be identified to accomplish this training.

In Haiti, international US&R Teams were given assignments by the OSOCC. The composition and make-up of the international rescue teams varies widely (from teams that are staffed and equipped similar to the 70-member FEMA Type I US&R Task Forces all the way down to 8 – 10 member teams with a small complement of rescue tools and minimum logistical support).

One of the many observations that was communicated to me by FEMA US&R System Task Force Leaders operating in Haiti was that international teams of widely-varying staffing and capability were assigned to similar-sized large operational areas (called “sectors” by the OSOCC), and that certain sectors did not have enough resources assigned to adequately perform prioritized search operations in a given operational period.

Another significant lesson learned and reinforced is that we should continue to develop and implement the National Incident Management System (NIMS) uniform resource-typing standard. This standard sets certain benchmarks in relation to the operational expectations and capabilities of different-sized response elements. By utilizing this standard, an Incident Commander can make informed decisions when assigning resources to an impacted area, and ensure that enough resources are assigned to critical areas in priority order for rescue operations.

To take this one step further, it is recommended that someone or some agency be tasked with the responsibility to develop a comprehensive national catalog of all US&R resources in this country, and to somehow catalog them in relation to the NIMS typing standard and validate their readiness (via an assessment tool similar to the FEMA US&R National Response System “Operational Readiness Evaluation” program). We must continue to formally educate local and state fire and emergency management officials specifically about the typed-US&R resources and the tiered-response assets available to them (through mutual-aid agreements, the Emergency Management Assistance Compact, and the National Response Framework), and we must find funding to train and exercise these resources together.

### **Reconnaissance and Search Operations**

The foundation of our concept of operations for effective search and rescue actions at large-scale catastrophic events is effective reconnaissance. Simply stated, the faster and more accurately we can assess damaged buildings, perform structural triage, and prioritize search opportunities, the better chance we have of successfully locating buried victims and initiating successful rescue operations.

As Chief Dave Downey has described in his written testimony, sector assignments and corresponding mapping in Haiti presented a significant challenge. In the first days of operations, FL-TF 1 and some of the other FEMA US&R Task Forces deployed to Haiti were using tourist maps provided by the US Embassy; search assignments were developed along geographical borders rather than like-sized grids.

The FEMA US&R System has a strong working relationship with the National Geo-Spatial Intelligence Agency (NGA). Their analysts and technicians are able to provide sophisticated mapping that contains detailed grid references with corresponding up-to-date satellite images, as well as Light Detection and Ranging (LIDAR) graphics soon after a sudden on-set disaster occurs.

Before this technology was available to us, the only way we could accomplish this initial reconnaissance of large devastated areas was “on the ground”. This is basically what occurred in Haiti.

This technology has dramatically changed the way the FEMA US&R IST and Task Forces are able to go to work in the critical early stages of the response. In essence, it allows us to electronically view actual images of an impacted area, determine the status of critical infrastructure, quickly prioritize target hazards, and assign adequate resources for reconnaissance and search operations. As operations progress, the NGA team deployed with the FEMA US&R IST is able to produce accurate working maps (with a standardized grid reference and reporting system) that assist greatly in planning for future operational periods, and also for documentation of completed and pending search operations.

Our experiences at the earthquake in Haiti reinforce lessons that we have previously learned: we must continue to build our relationship and train with the NGA, and we must continue the practice of deploying an NGA team at the same time a FEMA US&R IST or FEMA US&R Task Force is deployed to a disaster. Their technology and their work in the early stages of operations save us a significant amount of time, the most critical factor in rescue operations.

At my initial operations briefing upon my arrival in Haiti, I was told by a member of the USAID DART that building and search marking systems were being used sporadically by the rescue teams operating throughout the disaster sites. The FEMA US&R System utilizes three distinct marking systems at disaster sites: the Structural Assessment marking system, the Search marking system, and the Victim Location marking system. These marking systems serve the purpose of leaving an accurate portrayal of a building in relation to rescue operations, and give follow-on rescue teams a “summary” of the status of what has been assessed and accomplished at a given point in time.

Ideally, the initial first responders that gain access to a building would be familiar with these marking systems and would mark each building that they operate in. For other rescue teams that subsequently arrive and begin to operate in a specific area, these marking systems “tell a story”, and ultimately would prevent the duplication of search efforts that is common at disasters where marking systems are not employed. Critical time is wasted when search operations are duplicated, especially in the early stages of a disaster.

The FEMA US&R System must continue to educate local, regional, and State US&R assets as well as first responders regarding the importance of the use of the three marking systems.

### **Force-Multiplier Concept**

FEMA Administrator Fugate has recently shared his vision of a Force-Multiplier concept with the leadership of the FEMA National US&R Response System. This Force-Multiplier concept would use the current 28 FEMA US&R Task Forces to assist impacted local and state governments (when requested) at disasters, and build upon their operational capabilities and expertise by training selected Department of Defense assets to assist in initial operational-level search and rescue activities.



This concept would also be applied to non-FEMA US&R assets from the local, regional and state levels. By pairing these trained resources with the 28 FEMA US&R Task Forces, reconnaissance and initial search operations at complex events could be accomplished in a much more efficient, uniform manner. Based on the operations observed in Haiti, a similar Force-Multiplier concept applied in the early stages of operations would have made a significant positive impact on field operations, especially in the areas of reconnaissance, search documentation, and operational planning.

It is critical that we have a detailed plan in place, with adequate funding committed to design and deliver the appropriate training programs to identified personnel in order to fully develop Administrator Fugate's vision.

## **Summary**

Planning for response to earthquakes of significant magnitude is not some other country's problem; we face all of the same risks here in our country with the significant seismic zones that we have in heavily-populated areas that contain a high number of unreinforced masonry buildings.

Even though the memory of the devastation caused by the earthquake in Haiti is at the forefront of our current thoughts, I believe that our focus should not be on the triggering mechanism that causes a disaster. The stronger our foundation in the concept of All Hazard preparedness, the more likely we will successfully and safely resolve any incident to which we respond.

When I departed Haiti on January 26<sup>th</sup>, statistics provided by the United Nations OSOCC indicated that a total of 134 people were rescued from collapsed structures by rescue teams that responded from all over the world; 47 of those people were rescued by the efforts of the six US&R Task Forces from the United States. Some of those rescue operations were extremely complex, with one of them taking 30 hours to complete. Those rescues did not occur "by chance". They were the direct result of the dedication of our personnel, the extensive training that is provided to them, the specialized equipment cache and logistical support package that the Task Forces deploy with, the framework of the National US&R System that enables them to operate in a uniform and efficient manner, and the unwavering support of the Sponsoring Agencies and Participating Agencies that furnish all of the approximately 6,000 members of our national system.

It is vital that we continue to support and further develop our National US&R System which also serves as a best-practices model for our local, regional, and state US&R teams. The National Program has consistently reached out by sharing policies, procedures, training curricula and technical expertise. We stand ready to increase our efforts in this realm.

As we continue to work to improve the National US&R System, there are a number of administrative and funding concerns that need to be addressed. As an administrative creation of Congress, the US&R System is currently operated by FEMA under authority drawn from different sections of the Stafford Act. This has caused some significant concerns for Sponsoring Agencies and Task Force personnel in relation to Tort liability, Workers Compensation insurance coverage, and re-employment rights.

In previous years, a US&R Advisory Committee provided essential guidance and a balanced viewpoint to FEMA concerning the operation and administration of the US&R National Response

System. The Advisory Committee was historically comprised of members representing FEMA, Sponsoring Agency Chiefs, technical experts, labor officials, and emergency response professionals. Since the Advisory Committee was disbanded, the National US&R System has been functioning for many years without the formal input of the Sponsoring Agency Chiefs.

There have been wide variations in annual funding provided for the program since its inception. In 2006, FEMA estimated the current annual cost to maintain a Task Force for ready deployment to be approximately \$1.7 million. At the current level of funding, each of the 28 Task Forces faces a deficit of approximately \$700,000 to well over \$1 million each year, which is largely made up by Sponsoring Agencies and Participating Agencies who absorb both "hard" costs (such as the payment of vehicle insurance, maintenance, and operating costs), and "soft" costs (such as the payment of salaries for members to maintain specialized rescue skills during training exercises) related to Task Force expenses.

Chairman Oberstar's House Resolution 3377 addresses the current administrative concerns involving the National US&R program. This Resolution would consolidate the statutory authority for the System under the Stafford Act and would explicitly authorize the US&R System. Both the International Association of Fire Chiefs and the International Association of Firefighters fully support this legislative initiative and the corresponding funding requirement that would ensure a strong federal Urban Search & Rescue response capability. Based on our lessons learned and reinforced during the response to the earthquake in Haiti, I would respectfully ask that the Committee consider the continued support of the FEMA US&R National Response System.

Thank you Chairwoman Norton, Ranking Member Diaz-Balart, and distinguished members of the Subcommittee for the privilege of appearing before you today.